



Midwest Teachers Institute
Teachers Helping Teachers

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MTI 524- How the Brain Learns: Effective Strategies & Interventions to Maximize Student Learning.

ONLINE COURSE

MTI Contact Information	
Instructor Name	Kristina Probst- M.A.T
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Instructor Background	Kristina Probst is a High School science teacher at a diverse school in the southern suburbs of Chicago IL. She teaches honors chemistry and chemistry to sophomores, juniors, and seniors. She has earned a Bachelor's of Science in Biology and Chemistry from Oakland University in Michigan, and a Masters Degree in the Art of Teaching with focus on Curriculum and Instruction from Marygrove College. With over 10 years of experience in education, Mrs. Probst has been involved in curriculum development, research based teaching strategies, and using technology to increase academic achievement. She values collaborative teaching and meeting the needs of the whole child

Course Information	
Course Format (distance learning, online, webinar, experiential onsite courses):	Online Course The LMS for delivering the course will be Canvas. An invitation will be sent to you by your instructor during the week prior to the start of your course. If you have not received an invitation, please email us at the MTI email address listed above. Approximately 45 hours of instructional time is devoted to this course.

	<p>We recommend that you take an introduction to Canvas course as well to become more comfortable with our LMS. This can be done by clicking on the <i>help</i> tab, then Canvas 101.</p> <p>If you are having trouble with Canvas, technical support is available online 24/7 under the <i>help</i> tab, then <i>report a problem</i>.</p>
<p>Prerequisites and Credit Limits</p>	<p>All MTI courses are designed for educators who have a minimum of a bachelor’s degree and professional educator license. Prior to beginning the course, check with your district office to ensure that credit will be accepted for salary increase and professional development. All courses are for 3 graduate semester hours (credits).</p> <p>When you register, you may choose which of our accredited university partners you would like to receive your official transcript from.</p>
<p>Required Books and Materials</p>	<ul style="list-style-type: none"> ● Sousa, David A. <i>How the Brain Learns</i>. Corwin A Sage Publishing Company. ISBN 978-1506346304 ● (provided FREE with registration) ● Internet access ● LMS- Canvas Account and Login ● Lesson plans and unit plans
<p>Learning Outcomes/Competencies: At the completion of this course, the learner will be able to:</p> <ol style="list-style-type: none"> 1. Understand the basic structures of the human brain and its functions. INTASC 2 2. Environmental factors that influence the development of the brain. INTASC 2, 3, 10 3. Explore how technology is affecting the student’s brain. INTASC 6, 10 4. Understand how the brain processes information, the two temporary memories, long term storage, and self-concept. INTASC 1, 2, 3, 4, 7 5. Understand what the types of memories are and how memory forms. INTASC 2, 3 6. Determine what factors affect retention and how it varies with learning episodes. INTASC 1, 2, 3, 4, 7 7. Understand how daily biological rhythms affect teaching and learning. INTASC 2, 7, 9, 10 8. Understand the factors that affect retrieval of memories and how to lesson plan accordingly. INTASC 1, 2, 3, 7, 9 9. Understand they principle of transfer and factors that affect transfer. Teachers will learn how to use past learning effectively to enhance present and future teaching. INTASC 2, 3, 4, 5, 7, 9 10. Understand how some regions of the brain are specialized to perform certain tasks. INTASC 2, 3 11. Understand how incorporating arts into learning can develop cognitive competencies that benefit learners. INTASC 1, 2, 3, 4, 5, 7 12. Understand the characteristics of human thinking and thinking skills. INTASC 1, 2 	
<p>Course Description: How the Brain Learns is a course that presents information on how the brain processes information and how this affects how students learn. It presents suggestions on strategies to maximize student’s retention. The course is designed to help teachers answer questions like “How can I</p>	

help students understand and remember more of what I teach?” and “What classroom strategies are more likely to appeal to the brain of today’s student?” This course explores new research on brain function and converts this information into effective classroom strategies and activities. The course introduces new evidence on how incorporating art into lessons can enhance cognitive processing and creativity. How the Brain Learns discusses integration of recent developments in neuroscience, education, and psychology into the classroom. The course also has updated research on how the explosion of technology is affecting the brain.

Learning Strategies: Professional literature analysis, personal reflection, project-based learning.

Experiential Learning Opportunities: Students will be reflecting on the assessments and tools that they develop/learn about in class and measuring/estimating the intended impact on student learning in the classroom. Students will learn by doing while completing a variety of activities throughout the course.

Format of the Course and Submitting Work

This course has a total of 5 individual assessments/assignments. You are required to complete all of the pieces with a total grade of an A or B in order to receive the credit for the course. It is recommended that the coursework be completed in the sequence listed below in the assessments chart below. This is an ONLINE course that runs for a five (5) week duration. Each week as directed by your instructor you will have assignments due. Answer and Discuss and Reflect and Respond assignments will be completed online using our LMS(Learning Management Software) Canvas. Your application, research project and evaluation assignments will be submitted electronically to your instructor. Files can be saved in PDF’s or WORD Documents. You can also share via Google Drive format. Please contact your instructor if you have any questions or need help with the Google Drive format.

Assessments	Approximate contact hours for each assessment	
Answer and Discuss- Weekly Questions Posted By Instructor to Online Classroom at Canvas Forum. Questions Found On Canvas Classroom. One question per week for 5 weeks. 9 points per question.	45 points	6 hours
Reflect and Respond to 2 Posts Weekly (10 posts total) Made By Colleagues Online at Canvas Classroom Forum. 9 points per response.	90 points	9 hours
Application Assignments#1 and #2 (45 points ea)	90 points	10 hours
Research Project- Due end of week # 4	100 points	10 hours

Evaluation/Reflection Paper- Due end of week #5	100 points	10 hours
Total	425 points	45 hours
<p>Grading Scale: A (90-100%); B (80-89%) *Anything below a B will not receive graduate credit and result in a failing grade of F.</p> <p>If you do not receive a B or higher, your work will be returned to you for further correction and completion. You will be allowed one (1) re-submit to your instructor to achieve a grade of B or higher. If after your re-submit, you still do not achieve a B or higher you will receive a failing grade of F and therefore forfeit the 3 graduate credits.</p>		

Answer and Discuss Rubric- 5 questions @ 9 points each			
Category	Superior (3 pts)	Sufficient (2 pts)	Minimal(1pt)
<i>Supporting Evidence in Practice</i> ____/3	Response shows strong evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows some evidence of ideas and insights from this course and how they are applied to the classroom.
<i>Accuracy</i> ____/3	All supporting facts and statistics are accurately represented.	Almost all supporting facts and statistics are accurately represented.	Some of the supporting facts and statistics are accurately represented.
<i>Grammar and Spelling</i> ____/3	Response includes 0-1 mistakes in grammar or spelling.	Response includes a few grammar and spelling mistakes.	Response includes several grammar and spelling mistakes.

Reflect and Response Rubric- 10 responses @ 9 points each			
Category	Superior (3 pts)	Sufficient (2 pts)	Minimal(1pt)
<i>Supporting Evidence in Practice</i> ____/3	Response shows strong evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows some evidence of ideas and insights from this course and how they are applied to the classroom.
<i>Accuracy</i> ____/3	All supporting facts and statistics are accurately represented.	Almost all supporting facts and statistics are accurately represented.	Some of the supporting facts and statistics are accurately represented.
<i>Grammar and Spelling</i> ____/3	Response includes 0-1 mistakes in grammar or spelling.	Response includes a few grammar and spelling mistakes.	Response includes several grammar and spelling mistakes.

Application Rubric- 2 assignments @45 points each
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Category	Superior (15-13 pts)	Sufficient (12-10 pts)	Minimal(9-7pts)
<i>Supporting Evidence in Practice</i> ____/15	Response shows strong evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows some evidence of ideas and insights from this course and how they are applied to the classroom.
<i>Accuracy</i> ____/15	All supporting facts and statistics are accurately represented.	Almost all supporting facts and statistics are accurately represented.	Some of the supporting facts and statistics are accurately represented.
<i>Grammar and Spelling</i> ____/15	Response includes 0-1 mistakes in grammar or spelling.	Response includes a few grammar and spelling mistakes.	Response includes several grammar and spelling mistakes.

Project Rubric-100 points			
Category	Superior (20-18 pts)	Sufficient (17-16 pts)	Minimal (15-14pts)
<i>Understanding of web tool</i> ____/20	Shows strong understanding of activity, concept, or tool and maximize learning	Shows adequate understanding of activity, concept, or tool and benefit learning.	Shows little understanding of activity, concept, or tool and may not benefit learning.
<i>Practical evidence</i> ____/20	Shows strong evidence of ideas and insights gained from this course and how they are applied to classroom.	Shows evidence of ideas and insights from this course and how they are applied to classroom.	Shows little evidence of ideas and insights from this course or how they are applied to the classroom.
<i>Completion</i> ____/20	Completed in a thoughtful and meaningful manner.	Completed, but with minimal quality.	Not all projects are completed and of those that are, some are minimal quality.
<i>Grammar and Spelling</i> ____/20	Includes no mistakes in grammar or spelling.	Includes few grammar and spelling mistakes.	Includes numerous grammar and spelling mistakes.
<i>Sequencing</i> ____/20	Sequenced, showing if-then thinking and the logical order required to complete skill, solve problem, or use tool.	Not always sequenced, showing incomplete if-then thinking and understanding of logical order required to complete skill.	Confusing making it difficult to replicate activities; little understanding of logic or if-then thinking evidenced.

Evaluation Rubric- 100 points				
Category	Superior (20-17 pts)	Sufficient (16-13 pts)	Minimal(12-9pts)	Below Standard (8 pts)
<i>Supporting Evidence in Practice</i> ____/20	Response shows strong evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows some evidence of ideas and insights from this course and how they are applied to the classroom.	Response shows little evidence of ideas and insights from this course and there is little evidence they are applied to the classroom.

Accuracy ____/20	All supporting facts and statistics are accurately represented.	Almost all supporting facts and statistics are accurately represented.	Some of the supporting facts and statistics are accurately represented.	Many of the supporting facts and statistics are inaccurately represented.
Grammar and Spelling ____/20	Response includes 0-1 mistakes in grammar or spelling.	Response includes a few grammar and spelling mistakes.	Response includes several grammar and spelling mistakes.	Response includes numerous grammar and spelling mistakes.
Logical Sequencing ____/20	Response is written in a clear, concise, and well organized manner. Thoughts are presented in a coherent and logical manner.	Response is mostly clear, concise, and well organized. Thoughts are presented in a coherent and logical manner.	Response is somewhat unclear and/or disorganized. Some thoughts are presented in a coherent and logical manner.	Response is mostly unclear and/or disorganized. Many thoughts are presented in an incoherent and illogical manner.
Reflection ____/20	Response demonstrates an in-depth reflection on, and personalization of, the theories, concepts, and /or strategies presented in this course.	Response demonstrates some reflection on, and personalization of, the theories, concepts, and /or strategies presented in this course.	Response demonstrates a minimal reflection on, and personalization of, the theories, concepts, and /or strategies presented in this course.	Response demonstrates no reflection on, and personalization of, the theories, concepts, and /or strategies presented in this course.

Course Schedule

**All assignments must be completed the week assigned. In emergencies, please contact instructor.*

Week 1 Introduction to Course and LMS-Canvas Tutorial

- Syllabi/Assignment Review
- Read Chapter 1(*Basic Brain Facts*) and 2 (*How the Brain Processes Information*) in your textbook.
- Answer and Discussion Activity- Answer Week #1 Instructor Posted Online Question by Tuesday.
- Reflect and Respond Activity- Post/Communicate 2 Responses Online To Your Colleagues Answers by Thursday.

Week 2

- Read Chapters 3 (*Memory, Retention and Learning*) in your textbook.
- Answer and Discussion Activity- Answer Week #2 Instructor Posted Online Question by Tuesday.
- Reflect and Respond Activity- Post/Communicate 2 Responses Online To Your Colleagues Answers by Thursday.

Application #1- (45 points)

Page 82 discusses using synergy to enhance learning. Take a lesson that you may already use or one you are thinking about using and follow the guidelines on page 82-83 to create a synergy lesson. Describe the lesson and how you will incorporate synergy effectively.

2-3 Pages APA style

Week 3

- Read Chapters 4 (*The Power of Transfer*) in your textbook.
- Answer and Discussion Activity- Answer Week #3 Instructor Posted Online Question by Tuesday.
- Reflect and Respond Activity- Post/Communicate 2 Responses Online To Your Colleagues Answers by Thursday.

Application #2-Due Sunday End of week #3 (45 points)

Pick one or more issues you feel your school is NOT doing to promote positive brain retention and learning. (examples could include block scheduling, start time, environment, lighting, testing times, etc) Write a paper explaining why this is not good for students and explain how it can be changed or improved.

2-3 pages APA format.

Week 4

- Read Chapter 5 (*Brain Organization and Learning*) and Chapter 6 (*The Brain and the Arts*) in your textbook.
- Answer and Discussion Activity- Answer Week #4 Instructor Posted Online Question by Tuesday.
- Reflect and Respond Activity- Post/Communicate 2 Responses Online To Your Colleagues Answers by Thursday.

Action Research- Due Sunday of week #4 (100 points)

Research a topic from this course and find an article(s) that relates. Then write an article review and a personal reflection connecting the article to the course content.

-3-5 pages in APA format

-Include personal experiences and knowledge

-Reference the course textbook and article in your response

-Cite all sources

- Article must be recent, having been published within the last 5 to 7 years
- Cited, you must provide the web address or other identification for the research you conducted. Include the date that it was published/retrieved, as well as the author(s).

Week 5

- Read Chapter 7 (*Thinking Skills and Learning*) and Chapter 8 (*Putting it all Together*) in your textbook
- Answer and Discussion Activity- Answer Week #5 Instructor Posted Online Question by Tuesday.

- Reflect and Respond Activity- Post/Communicate 2 Responses Online To Your Colleagues Answers by Thursday.

Evaluation Assignment Due by Sunday of week #5 (100 points)

Reflect on this course and what you learned during this course. What new strategies will you use to enhance brain processing and learning? How can you translate the new discoveries into practical classroom strategies that can improve the efficacy of teaching and learning? What would you like to share with colleagues and administration? Using Table 8.1, 8.2 and 8.3 what new questions do you need to start including in your lesson planning? How will your lesson planning change?

Write 3-5 pages in APA format -Utilize the textbook -Cite all sources

End of Course Survey

Now that you are finished with this class, please take the time to help us improve our product. In order to make sure that we are providing the best possible service, please take our [survey](#). We appreciate your help and your commitment to the profession.

Academic Honesty

Academic dishonesty is any form of cheating which results in students giving or receiving unauthorized assistance in an academic exercise or receiving credit for work which is not their own. Any academic dishonesty is grounds for dismissal. Any student judged to be engaged in cheating may receive a failing grade for the course, or any other penalty, which the instructor finds appropriate. Academic dishonesty is a behavioral issue, not an issue of academic performance. As such, it is considered an act of misconduct and is also subject to the University disciplinary process as defined in the Student Code of Conduct.

Acts of Dishonesty Include:

- Cheating—intentionally using or attempting to use unauthorized materials, information, or study aids in any academic exercise. The term academic exercise includes all forms of work submitted for credit or hours.
- Fabrication—intentional and unauthorized falsification or invention of information or citation in an academic exercise.
- Facilitating Academic Dishonesty—intentionally or knowingly helping or attempting to help another to violate a provision of the institutional code of academic integrity.
- Plagiarism—the deliberate adoption or reproduction of ideas, words, or statements of another person as one’s own without acknowledgement.

Unauthorized Collaboration—intentionally sharing information or working together in an academic exercise when the course instructor does not approve such actions.

ADA Statement

The University abides by the Americans with Disability Act and Section 504 of the Rehabilitation Act of 1973, which stipulates that no student shall be denied the benefits of an education “solely by reason of a handicap.” If you have a documented disability that may affect your work in this class and for which you may require accommodations, please contact the Disability Resource Coordinator as soon as possible to arrange accommodations. In order to receive accommodations, you must be registered with and provide documentation of your disability to the Disability Resource Office.

The Disability Resource office will provide Extended Studies with documentation of the disability and any accommodations that are needed.

InTASC Principles

The ten INTASC standards are listed below. Specific standards for knowledge, dispositions, and performances accompany each principle, but space does not permit listing them below. For a complete copy of the INTASC standards, contact Jean Miller, Director of INTASC, Suite 700, One Massachusetts Avenue NW, Washington DC 20001-1431.

The InTASC Model Core Teaching Standards (April 2011)

The Learner and Learning

Standard #1: Learner Development

The teacher understands how learners grow and develop, recognizing that patterns of learning and development vary individually within and across the cognitive, linguistic, social, emotional, and physical areas, and designs and implements developmentally appropriate and challenging learning experiences.

Standard #2: Learning Differences

The teacher uses understanding of individual differences and diverse cultures and communities to ensure inclusive learning environments that enable each learner to meet high standards.

Standard #3: Learning Environments

The teacher works with others to create environments that support individual and

collaborative learning, and that encourage positive social interaction, active engagement in learning, and self-motivation.

Content Knowledge

Standard #4: Content Knowledge

The teacher understands the central concepts, tools of inquiry, and structures of the discipline(s) he or she teaches and creates learning experiences that make these aspects of the discipline accessible and meaningful for learners to assure mastery of the content.

Standard #5: Application of Content

The teacher understands how to connect concepts and use differing perspectives to engage learners in critical thinking, creativity, and collaborative problem solving related to authentic local and global issues.

Instructional Practice

Standard #6: Assessment

The teacher understands and uses multiple methods of assessment to engage learners in their own growth, to monitor learner progress, and to guide the teacher's and learner's decision making.

Standard #7: Planning for Instruction

The teacher plans instruction that supports every student in meeting rigorous learning goals by drawing upon knowledge of content areas, curriculum, cross-disciplinary skills, and pedagogy, as well as knowledge of learners and the community context.

Standard #8: Instructional Strategies

The teacher understands and uses a variety of instructional strategies to encourage learners to develop deep understanding of content areas and their connections, and to build skills to apply knowledge in meaningful ways.

Professional Responsibility

Standard #9: Professional Learning and Ethical Practice

The teacher engages in ongoing professional learning and uses evidence to continually evaluate his/her practice, particularly the effects of his/her choices and actions on others (learners, families, other professionals, and the community), and adapts practice to meet the needs of each learner.

Standard #10: Leadership and Collaboration

The teacher seeks appropriate leadership roles and opportunities to take responsibility for student learning, to collaborate with learners, families, colleagues, other school professionals, and community members to ensure learner growth, and to advance the profession.

